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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,485	03/29/2001	Kenneth Sullivan	EMC2-093PUS	5488

22494 7590 10/23/2003

DALY, CROWLEY & MOFFORD, LLP  
SUITE 101  
275 TURNPIKE STREET  
CANTON, MA 02021-2310

EXAMINER

HUYNH, KIM T

ART UNIT PAPER NUMBER

2189

DATE MAILED: 10/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/821,485

Applicant(s)

SULLIVAN ET AL.

Examiner

Kim T. Huynh

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuccio et al. (US Patent 6,289,401) in view of Applicant Admitted Prior Art.

As per claims 1, 4, Tuccio discloses a data storage system wherein a host computer is coupled to a bank of disk drives through an interface, such interface having a plurality of directors and a memory interconnected by a four busses, such directors controlling data transfer between the host computer and the bank of disk drives as such data passes through the memory, such interface comprising:

- A printed circuit board having: (col.2, lines 18-21)
- A plurality of electrical connectors arranged in a linear array and electrically connected to the busses, such electrical connectors being adapted to receive director printed circuit boards having the directors and the memory printed circuit boards having the memory, and electrically interconnect the directors and the memory received therein to the busses; (col.2, lines 18-53)

- Wherein a front end portion of the directors are coupled between the host computer and the busses through a front end portion of adapters and a back end portion of the directors and coupled between the bank of disk drives and the busses through the back end portion of the adapters; (col.4, lines 13-67)
- Wherein each one of such adapter boards comprises: (col.6, line 53-col.7, line 45)
- A plurality of adapter ports each one being coupled to a corresponding port of the host computer; (col.6, line 53-col.7, line 45)
- A plurality of adapter board gate arrays; (col.2, lines 6-63)
- A plurality of interfaces, each one being coupled between a corresponding one of the adapter port and a corresponding one of the adapter board gate arrays, wherein each coupled interfaces and gate array provides a corresponding one of a plurality of independent channels for the data, the plurality of channels being adapted to pass data concurrently therethrough. (col.8, lines 18-64), (col.10, lines 20-50)

Tuccio discloses all the limitation as above except ESCON adapters and optic interfaces. Applicant admitted prior art ESCON is well known in the art, the IBM Enterprise System Connection Architecture (ESCON) is a flexible interface is used to move data from host source, the architecture to include fiber optic cabling for transmission and reception of data. (page 3, lines 20)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate AAPA's teaching into Tuccio's system so as to provides greater advantages of higher rates for the system.

As per claim 2, Tuccio discloses wherein the memory comprises a plurality of memory sections each one having different addresses of the memory, each one of the memory sections being received in a corresponding one of the electrical connectors and being electrically connected to a corresponding one of a pair of the four busses, one of the memory sections being electrically connected to a first bus of the first pair of busses and a second bus of the second pair of busses and the other one of the memory sections being electrically connected to a second bus of the first pair of busses and a first bus of the second pair of busses. (col.2, lines 39-63)

As per claim 3, Tuccio discloses each one of the directors is electrically connected to the plurality of memory sections through the busses. (col.2, lines 6-27)

As per claim 5, Tuccio discloses wherein each adapter also comprises a plurality of adapter board CPUs, each one being coupled to the adapter board gate arrays and the interface of a corresponding one of the channels, each one of the CPUs controlling the initiation and termination of the data passing through said corresponding one of the channels. (col.7, lines 48-col.8, line 28)

### CLAIMS OBJECTION

3. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art does not disclose or suggest each one of the front end portion of the director boards includes a plurality of director board gate arrays and a plurality of EDACs; and wherein each pair of the director board gate arrays is coupled between a corresponding pair of the adapter board gate arrays and a corresponding one of the EDACs.

### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chilton [Pub. US 20020007428] discloses ESCON

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM- 6:30PM.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.*

*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.*

Kim Huynh

Oct. 18, 2003



PAUL R. MYERS  
PRIMARY EXAMINER